ABSTRACT

The metal fine particles 33 are sparsely fixed on the surface of the transparent substrate 32, and the acceptor 35 for attaching the specific ligand is immobilized on the transparent substrate 32 or the metal fine particles 33. The prism 36 is closely attached to the lower surface of the transparent substrate 32, and the excitation light enters the transparent substrate 32 through the prism 36. The incident light is totally reflected at the surface of the transparent substrate 32, and the evanescent light generated at the surface and the metal fine particles 33 locally plasmon resonate. As the evanescent light and the metal fine particles locally plasmon resonate, a strong electric field is enclosed in the vicinity of the metal fine particles. When the surface arranged with the metal fine particles 33 and the acceptor 35 is contacted to the analysis sample solution containing ligand modified with light emitting molecules, only the light emitting molecule modifying a specific ligand attached to the acceptor emits light.

1 Localized plasmon resonance sensor

32 Transparent substrate

33 Metal fine particles

34 Sensor unit

35 Acceptor

36 Prism

37 Light source

38 Light absorbing plate

39 Lens

40 Cut filter

41 Light detector

42 Analysis sample solution

43 Specific ligand

45 Filter

46 Flow path

47 Metal thin film

48 Concave part

50 Convex part

52 Stamper

58 Examining device